

DISL 235-OFF-HIGHWAY BRAKES AND DRIVETRAINS

SYLLABUS

CATALOG DESCRIPTION

Theory and operation of hydraulically operated/assisted drive trains including torque converters, transmissions, differentials, final drives, and foundation brake components for off-highway equipment. Safety will be strictly enforced. A grade of 'C' or better must be earned to receive credit for this course.

Prerequisites: DISL 110

Semester Offered: Spring

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...

BROAD AND SPECIALIZED LEARNING

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

CRITICAL THINKING

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

CULTURAL AND CIVIC ENGAGEMENT

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

EFFECTIVE COMMUNICATION

Students will exchange ideas and information with clarity in multiple contexts.

INFORMATION LITERACY

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

INTEGRATING TECHNOLOGIES

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.

Course Learning Outcomes

1. To provide the student with the techniques and procedures to correctly inspect, adjust, and repair on-highway truck drive systems. Inspect, test and adjust service and retarder brakes on off-highway trucks.

Specific Learning Objectives

Upon successful completion of the course, the student will be able to...

1. Identify components of torque convertor.
2. Trace fluid flow through a torque convertor.
3. Describe the operation of a torque convertor in various stages of operation.
4. Test converter inlet and outlet pressure.
5. Inspect a torque convertor.
6. Describe the operation of an overrunning clutch.
7. Describe the function of the three parts of a planetary gear set.
8. Trace the flow of power through a powershift transmission.
9. Diagnose, adjust transmission main pressure.
10. Diagnose, directional clutch application pressure.
11. Diagnose, speed clutch application pressure.
12. Safely perform a convertor stall test.
13. Check and adjust hot and cool oil levels.
14. Inspect, remove, and repair/replace a driveline universal joint.
15. Check/correct driveline angles per manufacturer's specifications.
16. Lubricate a driveline to include the slip joint.
17. Check/correct driveline Phasing(timing
18. Check input/output yokes for damage; service as needed.
19. Check/correct differential oil level.
20. Inspect, diagnose, and repair differential pinion oil seal leaks.
21. Inspect, diagnose, and repair pinion to bevel gear backlash.
22. Check, adjust ring gear tooth pattern per manufacturer's specifications.
23. Inspect, diagnose, and replace axle shafts per manufacturer's specifications.
24. Inspect, diagnose, wet wheel brakes.
25. Inspect, diagnose, dry wheel brakes.